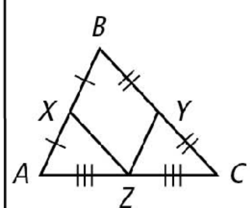
Question	Answer
16.	Possible answer: Given: $\triangle ABC$ is scalene. $\overline{XZ}$ and $\overline{YZ}$ are midsegments of $\triangle ABC$. Prove: $\triangle ABC$ cannot have 2 $\cong$ midsegments. Proof: Assume that $\triangle ABC$ does have 2 $\cong$ midsegments. Let $\overline{XZ}$ and $\overline{YZ}$ be the $\cong$ midsegments. By the def. of $\cong$ segs., $XZ = YZ$. By the $\triangle$ Mid segment Thm., $XZ = \frac{1}{2}BC$ and $YZ = \frac{1}{2}BA$. So $\frac{1}{2}BC = \frac{1}{2}BA$ by subst. But then $BC = BA$, and by the def. of $\cong$ segs., $\overline{BC} \cong \overline{BA}$. However, a scalene $\triangle$ by def. has no $\cong$ sides. So $\triangle ABC$ is not scalene, which contradicts the given information. This means the assumption is false, and therefore a scalene $\triangle$ cannot have 2 $\cong$ midsegments. 
17.	Possible answer: Given: $\angle J$ and $\angle K$ are supp. Prove: $\angle J$ and $\angle K$ cannot both be obtuse. Proof: Assume that $\angle J$ and $\angle K$ are both obtuse. Then $m\angle J > 90°$ and $m\angle K > 90°$ by the def. of obtuse. If the 2 inequalities are added, $m\angle J + m\angle K > 180°$. However, by the def. of supp. $\measuredangle$s, $m\angle J + m\angle K = 180°$. So $m\angle J + m\angle K > 180°$ contradicts the given information. This means the assumption is false, and therefore $\angle J$ and $\angle K$ cannot both be obtuse.
18.	$\angle J$, $\angle L$, $\angle K$

Question	Answer
19.	$\overline{RS}$, $\overline{ST}$, $\overline{RT}$
23.	Yes; the sum of each pair of 2 lengths is greater than the third.
25.	No; when $m = 3$, the value of $m + 11 = 14$, the value of $8m$ is 24, and the value of $m^2 + 1$ is 10. The sum of 14 and 10 is 24, which is not greater than the third side length.
29.	greater than 1.18 m and less than 4.96 m
31.	greater than $2\frac{2}{3}$ ft and less than $10\frac{1}{3}$ ft
32.	$\overline{AD}$, $\overline{BD}$, $\overline{AB}$, $\overline{BC}$, $\overline{CD}$; possible answer: in $\triangle ABD$, $m\angle ABD = 50°$. In $\triangle BCD$, $m\angle DBC = 74°$. In $\triangle ABD$, the order of the tubes from shortest to longest is $\overline{AD}$, $\overline{BD}$, $\overline{AB}$. In $\triangle BCD$, the order of the tubes from shortest to longest is $\overline{BD}$, $\overline{BC}$, $\overline{CD}$. So $AD < BD < AB$, and $BD < BC < CD$. Since $AB = 50.8$ and $BC = 54.1$, it is also true that $AB < BC$. So $\overline{AD} < \overline{BD} < \overline{AB} < \overline{BC} < \overline{CD}$.
48.	$>$
62.	$2 < n < 8$